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THE INCAS AND THEIR INDUSTRIES

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PORTRAIT OF A DIGNITARY

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[*Front*

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THE INCAS AND THEIR INDUSTRIES

By

HENRY VAN DEN BERGH

LONDON
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NEW YORK: E. P. DUTTON & CO
1921

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The Incas and their Industries

CHAPTER I

INCA RULE AND SPANISH WARFARE

IF we look backward, across the centuries lying behind us, we notice that, although the ways differ, all nations and their rulers try to arrive at general prosperity by laws and regulations.

The ancient Hebrew system of short leases offered undoubtedly certain guarantees that families who had "waxed poor," as Leviticus expresses it, were not condemned to everlasting poverty, but able to make a fresh start in "the jubilee" year.

"For the land is mine," spake the Lord unto Moses. Democracy of our day seems to proclaim the same principle: and it tries to come to the rescue of the poor, by attacking landed property, acquired generations ago, by means alleged to be illegal, and held by generation after generation to the present day.

The Incas of Peru followed another principle to promote a certain equality among their subjects, and in the twelfth century issued an agrarian law, according to which all the land was divided among the people according to the size of each family, with periodical, annual redistributions.

It was a remarkable effort, remarkable because so many thinkers have sought to attain a similar result, not only for land and agriculture, but for all means of production. In his "Looking Backward," a book that made a great impression about a quarter of a century ago, the author, Edward Bellamy, gave a

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concise description of his system to nationalise wealth as far as industry is concerned. He assumes that: "The nation organised as the one great business corporation in which all other corporations were absorbed . . . it became the one capitalist, the sole employer, the final monopoly in the profits and economies of which all citizens shared. In a word, the people of the United States concluded to assume the conduct of their own business, just as they had assumed the conduct of their own government, organising now for industrial purposes on precisely the same grounds that they had organised for political purposes."

Bellamy further asserts that entrusting commerce and industry to private persons and irresponsible corporations and syndicates "is a folly similar in kind, though vastly greater in magnitude, to that of surrendering the functions of political government to kings, autocrats, and nobles."

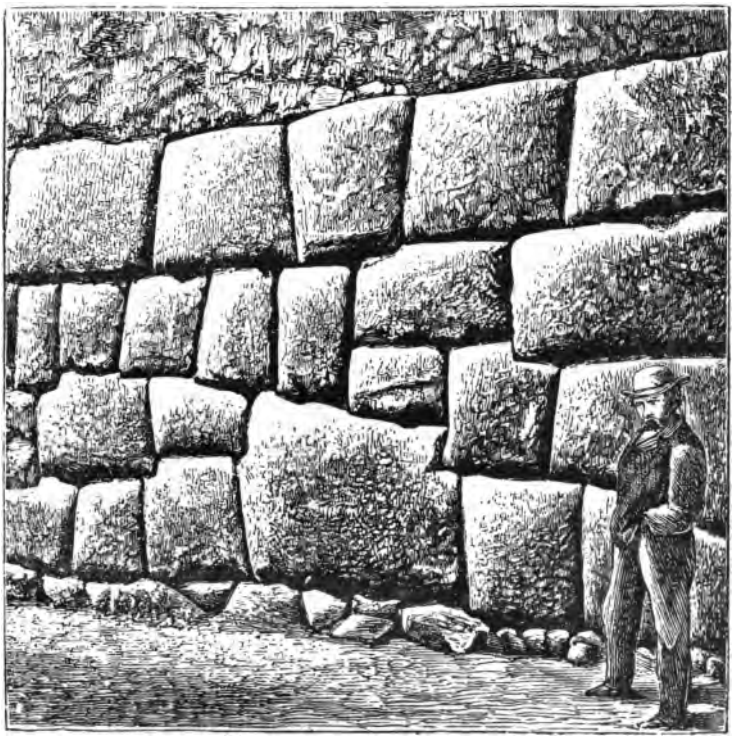
The Peruvians of the twelfth century probably never dreamed of interfering with the actions of their Incas, but submitted to any regulations these kings decided to make, and accepted that about the equal partitions of the land. Anyway, this attempt to institute "égalité," perhaps with "fraternité," but without "liberté," shows the spirit by which the Incas were guided, and which formed the basis of their government until they were conquered and despoiled of all power by the Spaniards, many generations later, who also destroyed Peruvian civilisation and wealth.

In consequence of this ruthless warfare it is extremely difficult to investigate Peru's history, her laws, her municipal or communal government, industries, and customs. The Incas left no written records about the greater part of their history; the Peruvians being, therefore, so far a prehistoric people, about whom knowledge can only be arrived at by inference.

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Plate II



CYCLOPEAN WALL, PALACE OF THE INCA ROCCA, CUZCO.

(*From* SQUIER'S *Peru*)

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MONOLITHIC GATEWAY ; TIAHUANACO, BOLIVIA

(*From South American Archæology, by* Mr. T. A. JOYCE, M.A.)

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Specimens of their pottery, textiles, and other objects have, however, been collected, and these give here and there a clue to the wonderful civilisation of this remarkable people. They came to light in recent times through excavations in Peru, and fortunately could be secured for the nation, and are now in the British Museum, accessible to the general public.

They seem not only to form a convincing and reliable confirmation of previous conjectures as to the idolatrous form of the Peruvians' religion, but also give an idea of their warlike habits and peculiar customs. It may be considered useful to precede an account of this collection of pottery by some remarks about the country itself, and the places where these objects were found.

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CHAPTER II

PHYSICAL ASPECTS

AS far as Peru's history is known, her frontiers varied a good deal in the course of time. Originally the country was only two hundred and fifty miles long and sixty wide, but the Incas conquered vast territories, until in the sixteenth century their kingdom, during the period of its highest prosperity, comprised the now independent republics of Ecuador, Bolivia and Northern Chile, as well as the immense wooded tracts along the Amazon and its tributaries, of which even now only little is known.

Peru, as we know it, covers about six hundred and eighty thousand square miles, with a coast-line along the Pacific of some one thousand three hundred and fifty miles, and inland frontiers giving a width varying from three hundred to seven hundred miles. These latter frontiers were arranged at different times and by various agreements, frequently amended as gradually the country became better known and was more accurately surveyed. The oldest of these agreements is the frequently revised Treaty of San Ildefonso (1777) between Peru and Brazil, whereas as recently as 1913 British officers surveyed the borders between Peru and Bolivia. Even this survey left some points unsettled where the Neath River separates the two republics. As a so-called natural boundary a river has, of course, certain advantages, but, unless it is well dyked in, these advantages are more or less theoretical, as floods often alter its course and dense forests frequently make exploration difficult.

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UPPER TERRACE, FORTRESS OF OLLANTAYTAMBO

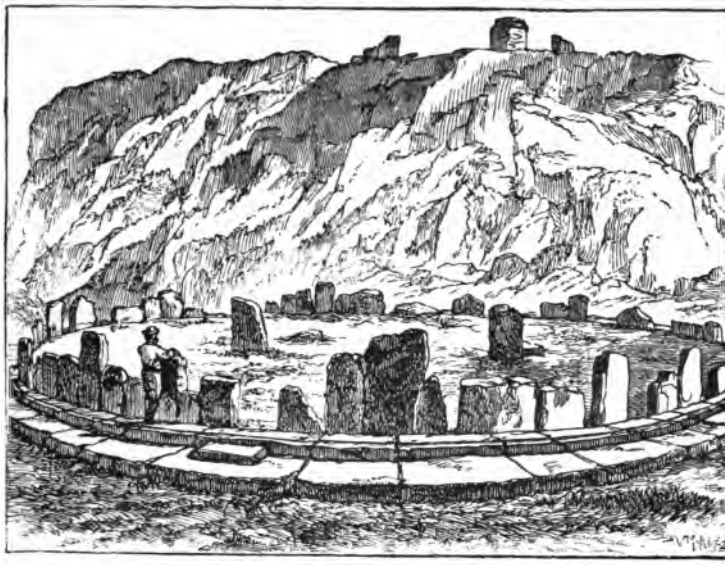


LOWER TERRACES : OLLANTAYTAMBO

(*From South American Archæology, by kind permission of the Author*, MR. T. A. JOYCE)

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Plate V



SUN-CIRCLE, SILLUSTANI.

(*From* SQUIER'S *Peru : Harper & Brothers, New York*)

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But, however imposing these tremendous rivers be, Peru's outstanding feature, determining the aspect of the country as well as the life and characteristics of the population, are her mountains, the Andes—that tremendous range running across the whole continent of South America, on an average about twelve thousand feet high, and, for the greater part, covered with eternal snow.

It is interesting in this connection to quote the words of one of Britain's prominent men. In his work, "South America: Observations and Impressions." (London. Macmillan & Co., Ltd. 1912.) Lord (then Mr. James) Bryce, says on page 5 about Peru:

"The foreground of wandering sand and black stones, the sense of solitude and of boundless space, a space useless to man and a solitude he can never people, the grimness of these bare walls of rock and pinnacles of untrodden snow rising out of a land with neither house nor field nor flower nor animal life, but only two lines of steel running across the desert floor, would have been terrible were it not for the exquisite richness and variety of the colours. In the foreground the black rocks and the myriad glitter of sand crystals were sharp and clear. The tints were more delicate on the red hills beyond, and the stern severity of the precipices in the far background was softened into tenderness by distance. The sunlight that burned upon these lines of iron and danced in waves of heat upon the rocks seemed to bring out on all the nearer hills and all the distant crags varieties of hue, sometimes contrasted, sometimes blending into one another, for which one could find no names, for pink melted into lilac, and violet into purple. Two months later, in the forests of Brazil, we were to see what the sun of the tropics does in stimulating an exuberant life: here we saw what beauty he can give to sterility."

The Andes divide into two large parallel arms,

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connected by transverse ranges, so-called "Knots." Whereas the main arms enclose the tablelands, "the Knots" form basins in these lands. One of these basins lies twelve thousand five hundred feet above the sea, between the Cuzco Knot in Peru, at 14.30° S.L. and the Potosi Knot in Bolivia at 22° S.L.; it is three hundred and sixty miles long and one hundred wide, and contains the sacred lake of Titicaca.

This is undoubtedly one of the most remarkable freshwater seas in the world, and the largest lake in South America. Near the southern bank are two small islands, of which the one, Titicaca, was dedicated to the Sun, and the other, Coati, to the Moon. Many Inca remains are found here, of which a Convent of the Virgins of the Sun is still in good preservation. The lake has not yet been surveyed, and different travellers give different estimates, varying between one hundred and sixty-five and one hundred and twenty miles for its length, and between sixty-three and thirty-eight miles for its width. However, its size must have decreased considerably, for the ruins of Tiahuanacu, the ancient city, built on its shore, are now at some distance from it, and this may account for the difference in the measurements given above.

It receives the water of several small rivers, and discharges its own into the river Desaguadero. Its water has a bad taste, but contains a great variety of fish, and consequently large numbers of waterfowl live here. These form the main food for the small population of mountaineers, for cereals cannot ripen at this high altitude, only green barley, used for fodder.

North of the Titicaca tableland and the Cuzco Knot is, at a distance of four hundred and forty miles, the Pasco Knot. Between these two knots and the converging Andes chains lies, over eleven thousand feet above sea level, the plateau on which Cuzco, Peru's ancient capital, is built.

It is clear from the above that the country may be

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Plate VI



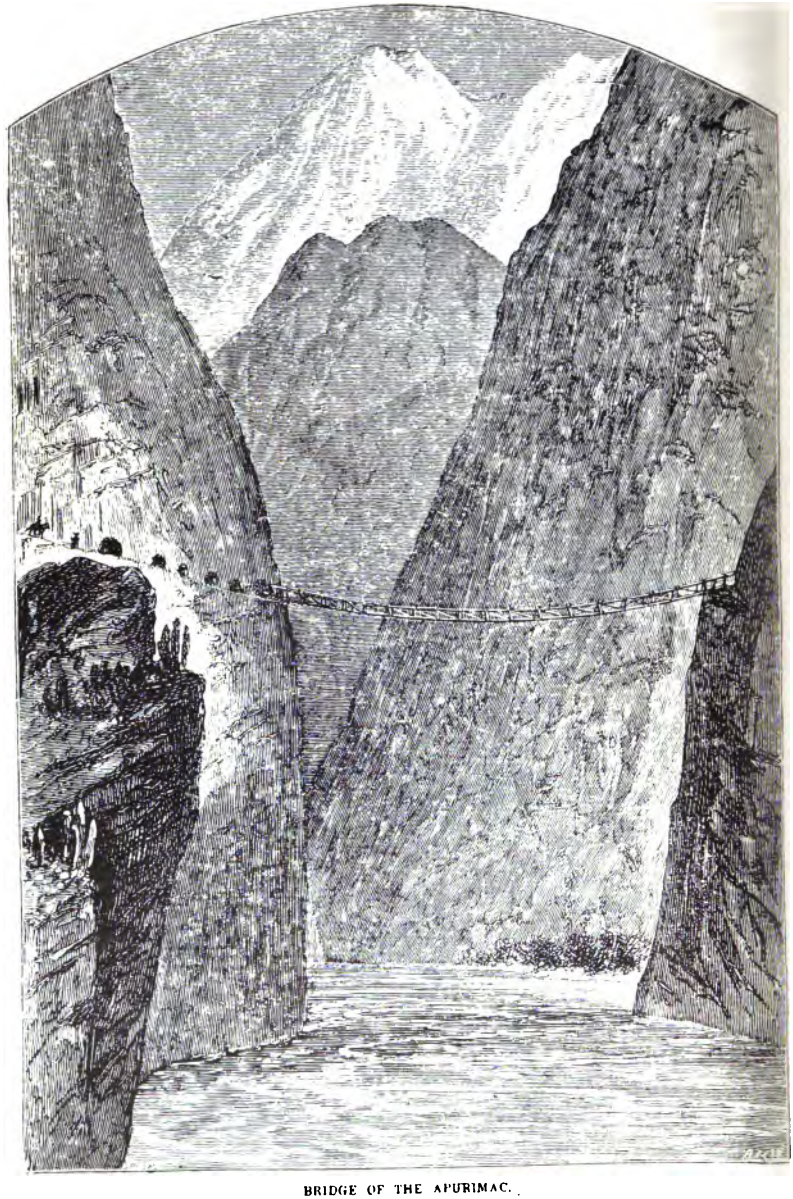
THE GREAT PYRAMID OF MOCHE.



PRINCIPAL FORTRESS OF OLLANTAYTAMBO.

(*From* SQUIER'S *Peru*)

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BRIDGE OF THE APURIMAC.

(*From* SQUIER'S *Peru*)

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divided into three longitudinal regions: the sandy coast, the mountains, and the Eastern Amazonian slopes of the Andes.

The coastal region between the Andes and the Pacific is a desert intersected by rivers running into the sea. About half of these do not reach the snow line, with the unavoidable result that, except during the rainy season, they are dry from June to September, when there is also much fog, called "Garnua."

The heat and dryness are greatest from November till April, and next to no vegetation is possible in the deserts between the rivers—deserts that have sometimes a width of seventy miles. Fertility is only found in the valleys, along the banks of those rivers that have a constant supply of water, because they originate high up in the Andes in the snow line. Here one finds abundant sugar-cane, cotton, vine, olives, and large forests.

The second region of the three, that of the mountains, the Andes themselves, forms about one-fourth of the country. It is called the "Sierra" and consists of enormous chains of mountains, high-lying tablelands of tremendous size, deep fertile valleys, and ravines.

The third and eastern part is the exact and complete opposite of the first. Although it is called the "Montaña," it does not contain the mountains themselves, but only their slopes, descending into the plains of the Amazon. It is moist and fertile and absolutely tropical. Its low-lying plains are full of dense forests through which large rivers run, all ending in the Amazon, that carries their water into the Atlantic. Here grow the rubber trees, on whose account the boundary commissions are busy. Cacao, coffee, sugar-cane and manioc are grown here. Peru is, moreover, the country from which two famous and —for medical purposes—useful drugs are obtained, cocaine and quinine, for the coca, from which cocaine is extracted, and the chinchona, whose bark

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provides the quinine, grow here. The Indians, when they are travelling, also use the coca leaves, mixed with a little lime, thus providing a satisfying and sustaining food. Whether they themselves or the Jesuit missionaries discovered the beneficial qualities of the "Peruvian bark" seems uncertain, but at all events, the latter were the first to send it to Europe, for which we owe them a great debt of gratitude.

The mineral wealth of Peru is well known and excited European cupidity from the time the country was first invaded by the Spaniards, who possessed themselves of the immense quantities of gold of the Incas. The silver mines of Cerro de Pasco were the richest of all; the Cordilleras de los Andes are rich in veins of gold, copper, lead and bismuth, whereas a considerable trade is going on in nitrate of soda.

These mines might be worked to much greater advantage if there were better roads in the mountains. As it is, they are only accessible by mule tracks and over rather frail bridges, so that the heavy mining machinery has no other means of transport than the backs of mules and llamas.

With regard to the climate, it is obvious that it varies in the three regions. At the coast it is unhealthy; the tropical lowlands of the "Montaña" are hot; in the higher regions it is mild; whereas the highest mountains are covered with eternal snow.

The result is that nearly every crop, European and other, can be and is grown here. All sorts of domestic stock can be raised, especially sheep of European origin, who multiply amazingly. The llama is the native sheep and also the native beast of burden, but the vicunas and huanacos live in a wild state. These are, however, carefully preserved, for they give the most beautiful wool of admirable fineness, from which the famous textiles of the Incas were woven.

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CHAPTER III

THE INCA RULERS

MANCO CAPAC and his sister-wife Occllo, the first Inca King and Queen, were said to be Children of the Sun, who were sent to Peru by their father, that they might teach the barbarian natives to plant maize, breed flocks, build houses, found cities, weave wool, and other industries and arts.

Manco Capac with his Queen descended from heaven on the Island of Titicaca, in the lake of that name, thereby making it a sacred spot; and after some time the two travelled north, across the table-land near Cuzco, until they found land soft enough to drive in the sceptre of gold, which their father, the Sun, had given them for this purpose.

Here, in a beautiful valley, they founded Cuzco, their capital.

This legend, one of the many about the origin of the Incas, may safely be taken to prove two things. The first is that the Incas, when invading Peru, found there advanced civilisation, the second that this invasion took place in prehistoric ages of which there are no records as these are usually understood. Proof for the first may be found in the immense structures, megalithic and otherwise, on the mainland near the Island of Titicaca, probably erected long before the Inca rule.

And, as Spanish chroniclers relate, the Incas seem to have built on the foundations of civilisation which they found. They promoted agriculture, introduced the cultivation of useful crops, taught the people to

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build terraces on the slopes of the mountains, and initiated a system of irrigation, conveying the water by extensive aqueducts to the coast and other parts where the soil suffered from drought and the dryness of the climate hindered vegetation.

These developments necessitated legislation, and the Incas became great law-givers as well. They kept in being the local village communities, the "Ayllus" which they found in the conquered country, and through these carried on husbandry in a more or less communistic way. The distribution of the land in equal shares has already been referred to. They "rationed" the allotment holders with regard to the quantity of water each was allowed by the overseers. These local overseers also saw to it that no land was left uncultivated, and no terraces allowed to fall into decay, in the same way as during the late war British farmers were controlled by government officials and—if necessary—punished.

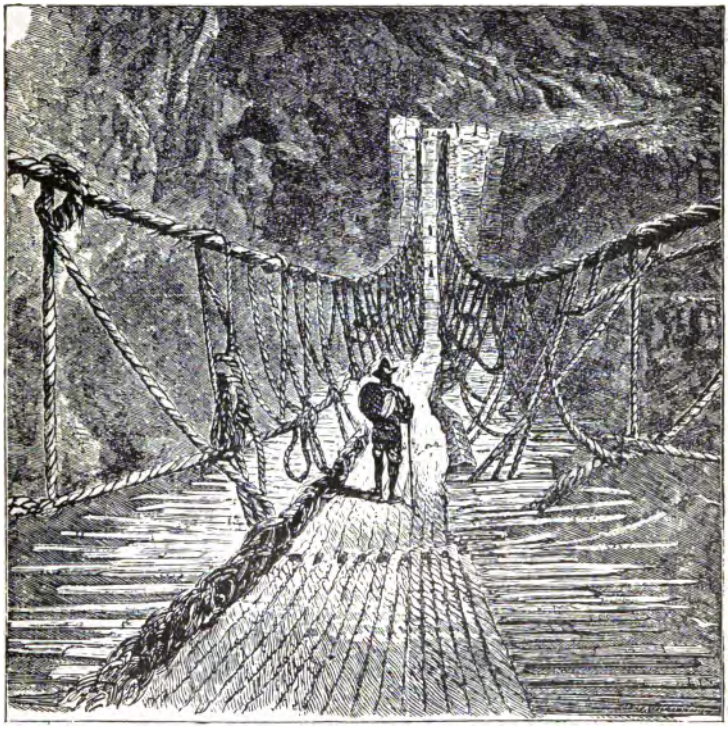
So idleness, unemployment and poverty were unknown, and certainly not encouraged or endowed. If calamities destroyed crops the victims were supported from the village stores, to which each inhabitant had to give part of his harvest. If illness or other causes prevented a man from doing his work, his neighbours were obliged to come to the rescue, and till the land for him.

To show how great an importance the government attached to agriculture and husbandry, the Inca ploughed the land on the day of the great festival of the Sun. On these occasions he used a golden plough, and thereby showed that tilling the earth is a work well worthy of the Children of the Sun.

It was perhaps only natural that these Children of the Sun considered themselves a superior race, being of divine descent, forming a separate caste who acquired superior learning, and thereby secluded themselves still more from the common population; they

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Plate VIII



LOOKING ACROSS THE BRIDGE.

(*From* SQUIER'S *Peru*)

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Plate IX



[*Photo, Underwood*

INCA WALL WITH NICHE : CUZCO

(*From South American Archæology, by* MR. T. A. JOYCE)

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asserted that they could prophesy the future, and perhaps had some knowledge of astronomy mixed up with notions of astrology.

It also deserves notice that they called their capital Cuzco, the Inca word for "Navel." This Cuzco became a very great city, as a matter of fact the Rome of the gradually expanding Inca empire, the residence of princes and nobles, where the great Temple of the Sun was built, the goal of numberless pilgrims.

The Incas' favourite residence was, however, Yucay, a few miles away from Cuzco. There they built their villas in another beautiful valley, sheltered from the winds by the surrounding mountains, watered by crystal streams, which afforded them the luxury of refreshing baths.

They derived their wealth from the mineral products of the country, and indulged even in the luxury of having their palaces and other residences left intact after their earthly death. For the Children of the Sun believed in resurrection and had their bodies embalmed. On certain important festivals these mummies were even taken into the central square of Cuzco, where banquets were served ceremoniously in grand style, as if they were still alive.

It is surely a ground for pity that the Spaniards destroyed the country with nearly modern ruthlessness, and ruined it so thoroughly that even now the wounds of that conquest are not healed.

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CHAPTER IV

LAW AND RELIGION

AGRARIAN and other social laws give the measure of a nation's civilisation; the criminal laws and the punishments prescribed therein indicate how far it has progressed from savagery and barbarity.

A very important social law obliged every Peruvian to marry at a certain age, whereas the community provided the happy couple with a house and a plot of land, which increased or decreased annually according to the number of children born or leaving the paternal roof. The Incas did not believe in equal rights for men and women, for the allotment for a son was double of that allowed for a daughter. Whereas monogamy was the rule, it was not compulsory; the Incas and Nobles were allowed to have a great many wives, and had in consequence so many children that these marriages not only must have become agrarian questions, but also made them a considerable factor of the community in other ways. There are accounts of families of seven hundred wives and two to three hundred children.

Probably there was a sufficient fixity of tenure, notwithstanding the annual redistributions, for as neglect of the land was a criminal offence, the necessity of eviction must have occurred only on rare occasions, and it may be assumed that the annual holder was in fact a tenant for life.

The criminal law was a much cruder product of legislature, and might have satisfied the Queen in "Alice in Wonderland." Capital punishment was

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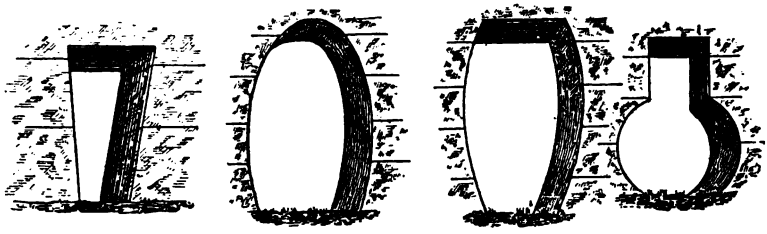
NICHE IN TERRACE WALLS OF THE COLCOMPATA.



INCA DOOR-WAY, CUZCO.

(*From* SQUIER'S *Peru*)

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DOOR-WAYS.



GATE-WAY AT CEMETERY—FRONT VIEW.

(*From* SQUIER'S *Peru*)

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the greatest deterrent from repeated crime; theft, adultery, murder, burning of a bridge or a house, turning a neighbour's water into one's own irrigation system—they were all punished by loss of life.

Rebellion in town or province was followed by devastation of the place or district and extermination of the population.

Life was primitive; every family was self-sustaining or nearly so; there was no trade, no coinage, and hardly any real estate. So no laws were necessary regulating those matters.

The judicature was equally simple. Each town and community had its own tribunal, with jurisdiction on small offences; important cases were dealt with by superior judges. But every case had to be settled within *five* days, and returns sent to Cuzco, the seat of the central government. At regular intervals the local courts were visited by inspectors, who checked these returns and examined the magistrate's or judge's findings and sentences. Any member of the Bench who was found to have made a judicial mistake was subjected to the sentence that he ought to have pronounced, and in such a case the criminal went scot free. This may have induced the judge frequently to give defendant the benefit of the doubt.

So much for the law.

Not much more is known of the Incas' religion, and it may be doubted whether the accounts given by Spaniards—perhaps bigoted—are entirely reliable.

For an agricultural community it was only natural to worship the Sun as the Supreme Deity, the source of light and warmth, the ultimate director of the fate of man, the father of the founders of the Inca empire. Every village and every city had its temple or temples dedicated to the Sun, with their altars on which it is asserted even human beings were burnt as offerings.

Next to the Sun came his sister-wife, the Moon, and further the Stars, Thunder, Lightning and the

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Rainbow, the royal emblems worked in the banners of the Kings as the beautiful emanation from the Sun and his divine glory.

Minor meteorological and physical phenomena also came in for their share of worship: the Winds, the Mountains, the Rivers, but not nearly so much as the Sun.

Blasphemy against the Sun and cursing the Incas, the deity's offspring, were sins punished with death. There was of course a clergy, whose head was the Huillac Umu, or High Priest, the next in rank and status to the Inca, from among whose brothers or next of kin he was usually chosen. The minor clergy were also descendants of the sacred race of Incas, and in Cuzco alone it is said there were over four thousand of these priests.

The church rituals seem to have been very complex and elaborate, and there were religious festivals in each month. Of these, the grandest was the Raymi, the festival of the Longest Day, the Solstice, and next came those of the two equinoxes in March and September. Sundials of various sorts were used by the priests to watch the Sun, and as a rule they used a column on a platform to observe when exactly the Sun rose due east and set due west. Very likely the "Stonehenge" arrangement near Tiahuanaco was also erected in connection with these or similar astronomical observations.

In how far the educated and learned among the Inca priests had a conception of a Creator who made the Sun, and worshipped the latter as a symbol of the former, is a matter for conjecture, but the masses probably saw the Creator in the Sun itself.

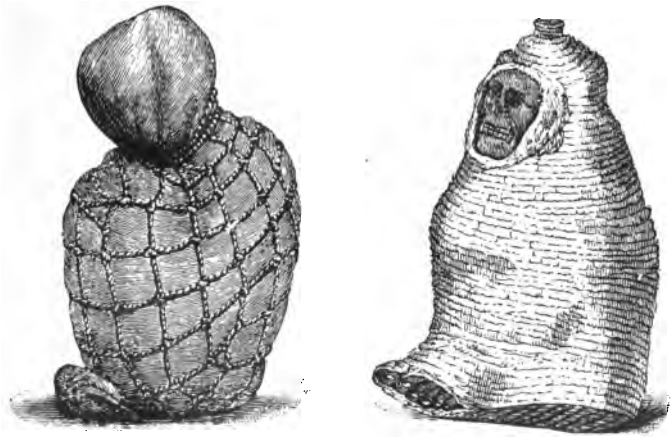
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Plate XII



MUMMY FROM THE COAST, ANCON [after Reiss and Stübel]

(*From South American Archæology, by kind permission of the Author*, MR. T. A. JOYCE)

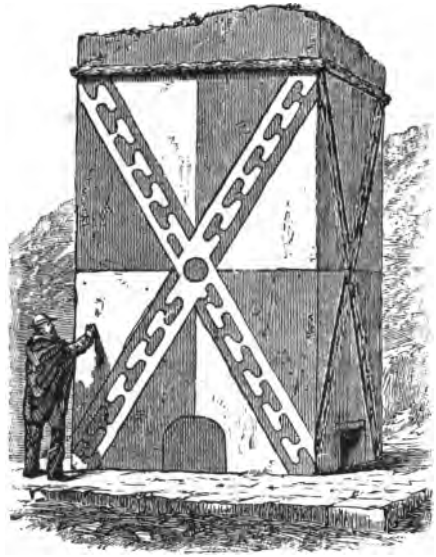


PERUVIAN MUMMIES.

(*From* SQUIER'S *Peru*)

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Plate XIII



CHULPA, OR BURIAL-TOWER.

(*From* SQUIER'S *Peru*)

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CHAPTER V

ARCHITECTURAL REMAINS

MENTION has already been made of the ruthless manner in which the Spanish invaders dealt with the unhappy empire of the Incas. There are a great many remains that prove how, under the Incas, Peru had better government, greater security for life and property, more facilities for attaining prosperity than it had since that unfortunate Conquest.

At that time, under Huyana Capac, the Inca empire had obtained its greatest extension, and he could not add to it, for the Peruvians never succeeded in subduing the savage tribes living in the forests at the eastern foot of the Andes or in taking possession of the fertile plains beyond them. What they could not do was performed later by the narrow-bladed American axe, that became the conqueror of the forests of a continent.

But Huyana Capac made a fatal mistake. He had a son, Atahualpa, by the daughter of the conquered chief of Quito, and another, Huascar, by his wife-sister in Cuzco. He tried to divide his kingdom between these two, but tried in vain, and civil war was the result. This civil war facilitated the conquest, that the Spaniards could not have effected otherwise, although at first they frightened the Peruvian warriors by their horses, animals Peru had hitherto not known, and by their apparent control of lightning and thunder from their guns and cannons.

Thus came an end to Peru's independence, different

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from what might have been the consequence of the civil war, which probably would have resulted in a division of the country, each part following its own development, that would most likely have carried Peruvian civilisation to the highest point of American aboriginal culture.

But this was not to be: devastation took the place of civilisation of which Peru's architectural remains are the surviving proofs.

There are two sorts of these remains in Peru, the older ones from the times before the Incas, milestones on the road of progress, placed there in an early and comparatively rude past.

Besides the elaborate remains of Tiahuanaco, that are almost as admirable as those of Assyria, Egypt, Greece or Rome, there are analogous structures to those of Stonehenge in England and Carnac in Brittany, remains occupying the remotest place in monumental history.

The rude sun-circles of Sillustani, almost under the shadow of the finest Inca structure, are very like those in England, Denmark and Tartary.

There are only very few of these older remains left, for the Incas ruled over a steadily increasing population, occupying a very restricted inhabitable and arable area. Necessity compelled them to use every square foot for food production, and hence they were obliged to disregard utterly the traditions and monuments, the temples and cemeteries that stood in the way of land development.

It is a country of which the fertile part is surrounded by deserts and mountains, where every blade of grass, every stalk of corn is valuable; no wonder that the Incas did not respect the rude structures, public or private, of their predecessors, about whom little is known in consequence. The wonder is that not everything has disappeared.

Garcilasso is the principal Spanish authority, who

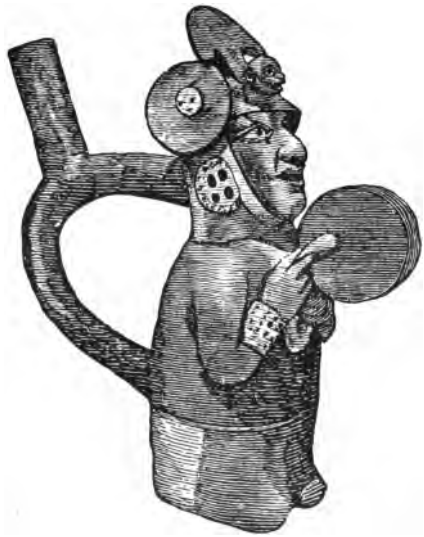
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Plate XIV



PERUVIAN POTTERY

(*In the Author's collection*)



TAMBOURINE-PLAYER.

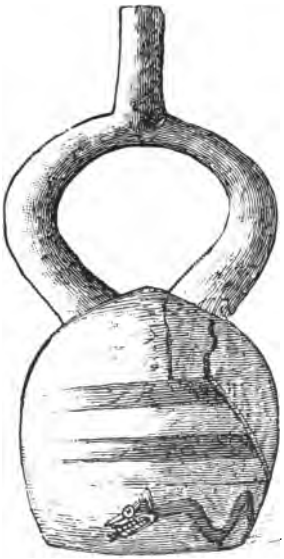
(*From* SQUIER'S *Peru*)

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Plate XV



PERUVIAN POTTERY



PERUVIAN POTTERY



PERUVIAN POTTERY.

(*In the Author's collection*)

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recorded what he was told by the son of an Inca mother about their ancient history, customs, traditions. But there is no possibility of checking either the reliability of his sources or his own as a chronicler. It is known that the so-called "Amautas" taught the ancient history in the schools of Quito, but it is also known how carefully such oral records must be sifted. They used "quipus," or knotted cords, probably for recording of dates and numbers; but even this is not certain, and these "quipus" were decidedly inferior to the painted records of the Mexicans, or the, probably syllabo-phonetic, writings of the inhabitants of Central America.

In no way do they provide reliable evidence, and since written or graphic documents do not exist, architectural monuments become of the greatest value for the knowledge of Peruvian history.

The remains of the great fortresses at Ollantaytambo and Pisac give an indication of the military positions; ruins of towns confirm the tradition that they were founded or destroyed by some Inca. These two, fortresses and towns, and remains of great public works show that the Incas must have ruled a population both numerous and industrious. They also give an insight into their proficiency in the sciences.

The ruins of the villages and their sites indicate how dense the populations must have been; aqueducts and reservoirs point to the efficiency of their agricultural system, as bridges, roads, and "tambos," or stores, tell the story of intercommunications. There are some prisons, telling their own tale, and ruins of structures indicating that they may have been built for the purpose of executions and giving a clear idea of the way in which these were performed.

With regard to the condition of the masses, there is eloquence in the absolute absence of any remains of the dwellings of the common people. These dwellings were evidently not built for the ages, and even now

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Bryce found in Cuzco "mud huts with grass roofs." The ruins of their "chulpas" and tombs prove their belief in a future life and resurrection. What is found there gives an idea of their household utensils and implements and the texture of their garments. There were found also the various specimens of pottery, now placed in the British Museum.

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CHAPTER VI

INDUSTRY

ONLY a few more remarks are necessary before proceeding to deal with some urns, vases, and bowls found in Peruvian cemeteries, pyramids and palaces. It was explained that Peru's coastal region is intersected by valleys and rivers, where is found the clay, the raw material for the potter's industry. That industry could not exist and develop in the eastern mountainous and rocky part, as clay is not found in those regions.

This explains how the ancient buildings along and near the coast are built of sun-dried bricks (adobes) and also proves that their architects were not the Incas, but the Chimus, who inhabited the coastal region long before they were conquered by their more warlike eastern neighbours.

Whether the Incas removed the potters themselves to the inland, to let them do their work there, or had the finished articles sent up, is a matter of conjecture. Possibly the bulk of these artisans stayed where they found an abundance of raw material to work on, whereas a few came to Cuzco; and these few may have been the best and ablest workmen among them, who would find their craft more highly valued in the aristocratic circles of the Incas' capital than among the simpler dwellers along the coast.

Another point should not be lost sight of, and that is the similarity between Chimu and Peruvian art and that of various ancient remains in the so-called Old World.

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There are the truncated pyramids built of bricks; there is the absence of the arch in their architectural constructions, in consequence of which, for instance, doorways, gates and niches in Ollataytambo, Colcompata and other places resemble Old Greek structures, such as the famous gate at Argos. Further, the ornamentations of vases and bowls resemble so strongly those of the Greek that it is difficult to believe that the two came into existence and developed independently of each other.

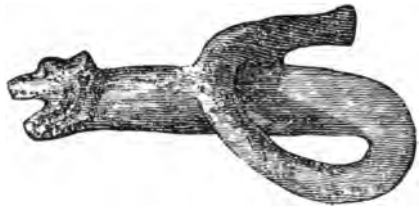
And then there are the faces into which some of the vases are moulded. These have more often than not a Caucasian type, whereas in some cases the expression, or lack of expression, and attitude of arms and hands remind one of Buddha images.

Another peculiar feature of the vases and jars in the shape of human forms is that the artist gave great attention to the face. The same may be noticed in the ancient Egyptian images of the various gods and goddesses; the face is treated with great care, but the arms and legs, as well as the trunk, are dealt with in a more or less sketchy manner.

All this seems to point to the possibility, if not even probability, of a lively intercourse between Peru and other parts of the Old World, which "Old" World may have appeared a new one to the Chimus, whose civilisation is considered by archæologists to be some 5,000 years older than our own.

Be that as it may, it is obvious that through the pottery we get an idea of the people themselves by whom and for whom it was made; in it we find faithful records of national manners and customs modelled on the vases. There are depicted warriors, sportsmen, sailors, fishermen, modes of punishment, costumes of all sorts, the personal ornaments they adorned themselves with, the food they used, the arms they fought with—nothing seems to have escaped the potter's eye. They show all sorts of birds, fruit, sea-

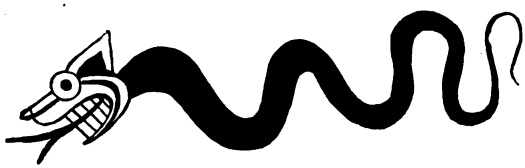
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TRUMPET, BAKED CLAY.



FISH ORNAMENTS FROM THE CHINCHA ISLANDS.



THE SERPENT SYMBOL.



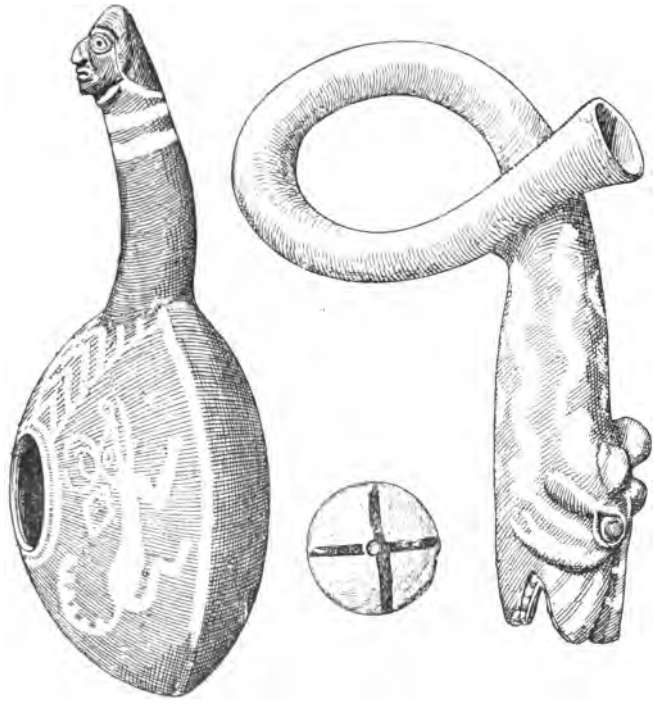
SNAIL FROM CHIMU VASE.

(*From* SQUIER'S *Peru*)

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(From Elsevier's Geillustreerd Maandschriat : by permission)



POTTERY VASE, POTTERY TRUMPET (Scale $\frac{3}{11}$) (British Museum)

(From South American Archæology, by kind permission of the Author, MR. T. A. JOYCE)

lions, monkeys, penguins from the South, parrots, llamas, lizards, frogs, and many other objects; every touch by the potter's finger of the soft clay is the expression of a thought. Modern plates and dishes of uniform pattern and with stereotyped ornamentation tell one very little, but the burial mounds of Peru, her pottery and her mummies, enable one to form an idea of a civilisation which has now passed away.

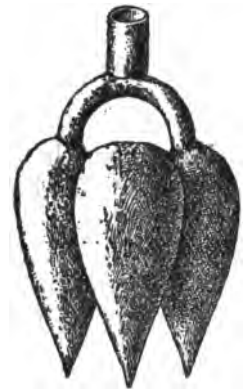
There is no doubt that a simple vessel, made solely to hold water, gives the earliest form of industry—such as a jar found at Ancon, on the coast not far from Lima. Later the forms became much more elaborate, but the first ornamentation was evidently moulded, as many of the earlier vases are stamped with shells and other objects found on the shore. Thus some have a helix into which the clay has been pressed, and another with a scallop shell, which forms the body of the jar and makes a simple ornament of some beauty; after this the potters went further and produced jars in great variety in the shape of fish. A fish, being a more or less hard object, could be easily moulded in the clay, but they were not so successful with birds, and it is difficult to know which birds the jars are intended to represent. Although by their faulty workmanship these primitive bird-jars impress one as a step downwards, they are really a step upwards as the potter has given up the stamped moulding and taken to modelling by hand. The first results are not very good, but they are a great advance towards the later elaborate designs.

Many of the jars found in the coastal region have a bifurcated spout, which is in fact a distinctive mark of the coast pottery. These jars are also very simple, but even here one finds a small animal sitting in the angle of the spout; it shows how, even in those early days, they loved to ornament everything. It has been thought that the more intricate spouts were thus made

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for fear of creeping animals finding their way into the jars, and also for the purpose of stopping evaporation.

This coast pottery appears to have led to an alteration of the form of the jar from the flat or round-bottomed to the point-footed shape, as many have been found in this form. As the Peruvians were usually squatting on the ground, nearly all jars representing human figures have this form, and even the mummies have a similar attitude. It is probable that the native, when resting, had such jar filled with some



beverage before him, to quench his thirst, and as the coast region was all sand, a point-footed jar would stand even better than a flat-bottomed one. In the rocky ground of the Sierras they would be of little use, and yet some have been found inland, which suggests that there the point-footed jar was put to some other use. It is also possible that the pointed form was useful for heating the contents over a fire.

Another type of jar has two openings connected by the handle, and in some of the vases with only one opening the body is double—the two vases being connected at the bottom, the upper part serving as a handle. One of these, known as the man eating his lunch, is now in the Smithsonian Collection at Washington.

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1, CARVED STONE VESSEL, CUZCO. 2–5, BLACK POTTERY : TRUXILLO. 6, 7, 8, RED POTTERY : TRUXILLO (*In the Author's collection at the British Museum*)

(*From South American Archæology, by kind permission of the Author,* MR. T. A. JOYCE)

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Plate XIX



PERUVIAN POTS

(In the Author's collection, showing increasing artistic ability of the makers)

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There are a great many of these double jars with a great variety of figures. Some of these, known as whistling jars, are so constructed that the handle passes from the spout on one side to a similar projection on the other, on which the head of a bird or other animal is represented. The filling or emptying of the vessel produces a sound like the piping of a bird, the cry of some animal, or the human voice, according to the head on the jar. In the death-like stillness of the desert regions even a whistling jar was probably a desirable companion.

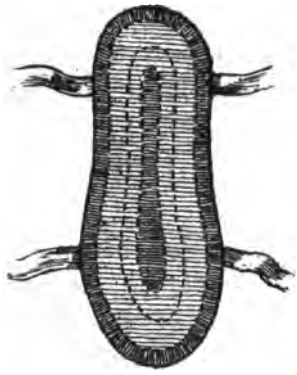
The Peruvians, no doubt, had a taste for music, like the natives of all tropical countries. The sun, setting soon after six o'clock, is gone for about twelve hours, and this all the year round; this gives rather a long evening, and music, song, and an occasional dance would vary the monotony. In any case, there are many musical instruments represented on the jars, such as tambourines beaten with a stick, and trumpets.

For the purpose of dancing they had various instruments. There was the drum, or cajas, made of llama skin; the gwena, a sort of flute; "Pandean pipes," made of reeds; the lyre, a stringed instrument like a guitar or banjo; and on grand occasions they used the clarion, a long reed instrument with a sort of bag at one end and holes in the mouth's end for fingering, in fact a sort of bagpipe, though a Scots piper might not recognise it as such. The Incas evidently ruled over a pleasure-loving people, who liked play-acting, and were fond of poetry and recitations. They used many objects for personal adornment: necklaces of gold, silver, copper, bands for the head, and bracelets, ear-rings and finger-rings, all found in the tombs where the mummies of great people also had precious stones pierced and strung to necklaces. They seemed particularly fond of turquoise, of which a great number are found among the mummy jewels.

The jars and tombs tell us also which shoes they

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wore. Probably they mostly went about on bare feet, but some sort of protection was needed on the stony ways in the mountains. They used sandals, of which





one was found at Ancon, on the coast. It served as sole for most of the footwear, but there were many





ways of fastening them on. Some were quite dressy, while the soldiers wore a very strong shoe.

The general dress was the poncho, a square piece of cloth or blanket with a hole in the middle for the head to pass through. These ponchos were of various

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lengths; some only covered the chest, and underneath a sort of shirt was worn, of which garments specimens have been found. Sometimes the poncho came down to the feet, and workmen had holes cut in the sides for the arms; sometimes the shirts themselves had sleeves, to make manual labour possible.

The head-dresses show a great variety, but all were thick, substantial coverings to protect the head against the heat of the sun.



FEATHER HEAD-DRESS.



SILVER BAND HEAD-DRESS.



INDIAN HEAD ORNAMENT WITH GOLD PLATES.

Massive golden ear-plugs were worn by the higher classes. These rings were so large and heavy that they stretched the lobes of the ear so as to almost touch the shoulder. Long ears were thus a mark of high rank. The Spaniards called these aristocratic Peruvians Orejones, or people with great ears. The ears of all nobles were pierced by the Inca at the time of the great festival, when they were admitted with great ceremony as warriors of the King.

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The jars give also some idea of the dress of soldiers. A soldier on a jar, found at Moche, on the coast, wears a sort of helmet and carries a small shield in his left hand; he has apparently no weapon. Another jar, also found at Moche, shows a warrior fully ready for the fray, armed with a very formidable club and what would appear to be heavy stones in his left hand and forearm—a forerunner of our present bomb-thrower or grenadier.

We also find sporting scenes on the jars. On a beautiful jar, found at Santa, the sportsman wears the plumed helmet of a chief. He is running after a spotted animal which looks like a hind but may be something else; he is apparently about to give it a *coup de grace* with his spear, holding his club in his other hand ready to strike. It would rather seem as though the animal were previously driven into a pit or trap. However, it gives us an idea of the weapons they used, the dress they wore, and the game they went after for food.

The Incas may or may not have had much to do with the sea, but the coast region was inhabited by an earlier race, about whom a legend existed that they came to Peru on rafts. So we find that these people had boats for fishing, or voyages to the guano islands to get manure for the land. A jar found at Chima tells us what the boats and sailors were like. By the Spaniards these boats were called "caballitos"; they were made of bundles of rods, across which the boatman sits astride, and rowed with a double paddle. The prow is turned up in front. Other similar jars have been found on the coast settlements, but the Chima jar shows a rather more solid boat, although the shape is the same. Two sailors are seated in this one; the man in front is apparently paddling, the man behind appears to be doing nothing, but there is a rowlock in front of him, so perhaps he is resting. The spout and handle of the jar surmount the central part

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POTTERY TYPES

1, 2, 3, TRUXILLO (*In the Author's collection at the British Museum*).
4, YCA. 5, ARICA. 6, RECUAY NEAR TRUXILLO. 7, 8, 9, TITICACA.

(*From South American Archæology, by* MR. T. A. JOYCE)

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Plate XXI



WARRIORS FIGHTING (From a Vase ; Truxillo)

(*From South American Archæology, by kind permission of the Author*, MR. T. A. JOYCE)

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of the boat, which gives it more or less the appearance of a steamer with her funnel.

It must also be remembered in this connection that Inca Yupanqui is said to have made an expedition by sea, and to have reached the Galapagos Islands in the Pacific Ocean. He had a number of balsas constructed of inflated sealskins fastened together, and took with him a large detachment of his army. The Inca and his men sailed away and disappeared below the horizon. It must have been an exciting adventure, but he returned in safety after an absence of nine months. Sarmiento believes that he even reached the Solomon Islands, but this is doubtful. It shows, at any rate, that the Incas had boats fit for a sea voyage, out and home, of at least 1,400 miles.

Besides all these details, the jars tell us also what sort of people the Incas were, and how they looked. There are no pictures left, if any ever existed, and we have only a few rather vague descriptions by Spanish writers of the race they conquered and practically destroyed. Still, we know that they were a fine race, brave and hardy, and of great intellectual powers to have produced such statesmen and generals and such victorious armies. Fortunately a favourite form of Peruvian pottery was, like the Greek drinking-cup, the human head, and these are evidently not only life-like, but also show much character.

There is, for instance, such a jar found at Santa, obviously the portrait of a man of strong character, fierce-looking, and with a hard, cruel mouth. His ears are pierced and he wears ear-rings, probably of gold, and he evidently belonged to the warrior class. In another the head is thrown back and, to balance this weight, the face is thrust forward; the nose is well formed, and the lower jaw is strong. The syphon handle runs from forehead to crown.

Another even finer head wears a close-fitting cap with heavy flaps behind. The face, full of strength,

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vigour and determination, is that of a ruler of men. The shape of the jar shows that it probably was made at Cuzco, and it may be the portrait of some eminent personage. If he was one of the rulers one can no longer wonder at the moral force they exercised over the people and the wisdom of their laws.

There is another jar in the Smithsonian Institution, obviously the portrait of a soldier, evidently a born fighter and determined leader. He wears a head-dress which may indicate some high military rank. He wears the large ear ornaments of the ruling class, and perhaps had led the Inca's troops to victory. But



even more beautiful and lifelike heads are some of those in the British Museum collection. They were photographed at the Museum to illustrate an article in the *Burlington Magazine* for April, 1910. The faces seem familiar, as if one might recognise these men in the street, if one met them; one feels that they are like somebody one knows or has seen.

Most of them came from the Tombs in the Chicama Valley in the Chimu country.

But from the fact that the jars, etc., were found low down in the burial places, one must conclude that not many were made after the Spanish conquest (1524); some, indeed, must have been made two

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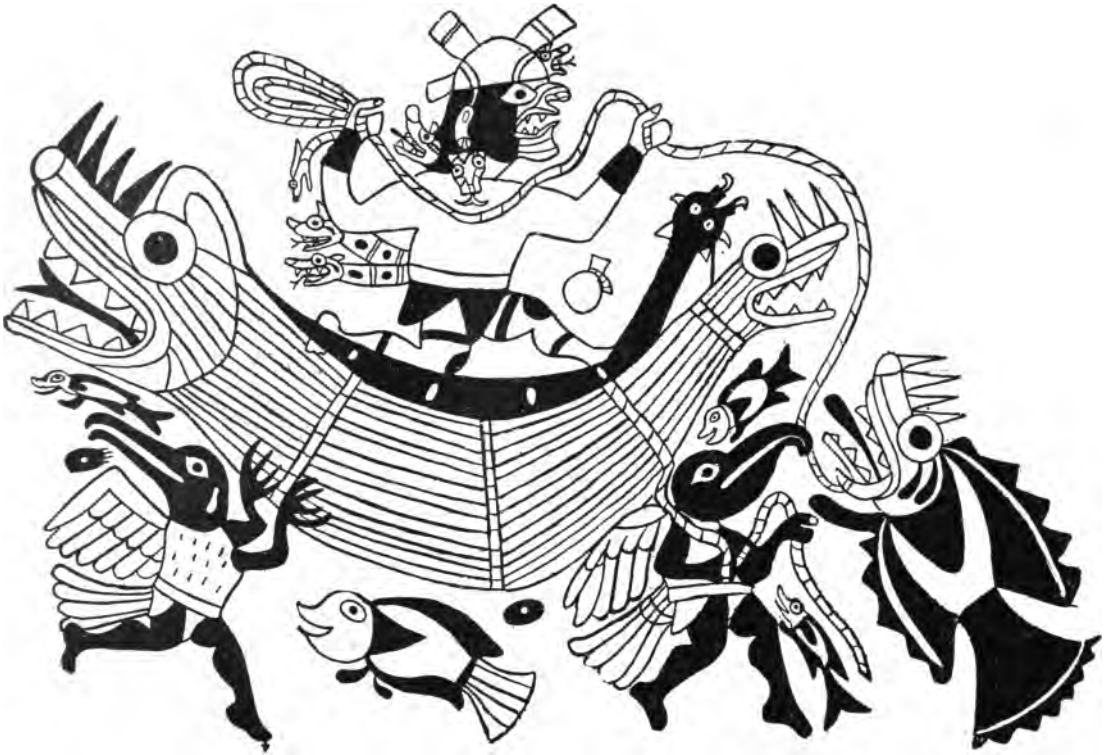
TYPES OF DWELLINGS ON THE COAST (from Vases; Truxillo)



HUNTING SCENE (from a Vase; Truxillo)

(*From South American Archæology, by kind permission of the Author*, MR. T. A. JOYCE)

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FISHING SCENE (from a Vase ; Truxillo)

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hundred years or so earlier, and before the Inca conquest, for Chimu pottery was evidently famous at the time of the latter conquest, as is shown by the fact that many potters were moved to Cuzco by the conqueror. On the other hand, the figures on the jars seem to represent the Inca's people themselves, whereas, if they had been the work of pre-Inca people, one would expect to find a change of type after the conquest; but there appears no marked difference beyond that arising from increased skill in the manufacture. That the craft was practised up to a comparatively late period is shown in the later ware, found in the same tombs with the earlier ones, and representing Spanish soldiers.

There are no accounts left about the way in which Peruvian pottery was made, nor have any kilns or ovens been found to show how it was baked, but one thing strikes one at once, namely, the great variety of colour from white to black. A large part of the pottery is black, and this was at first attributed to the influence of time. On this ground the black ware was thought to be the oldest; but this does not seem to be the case. In the first place, the clay is found in the coastal deposits of various colours, some being quite white and some almost black; this is chiefly caused by metallic and mineral matter with which it is mixed—a great deal of broken pottery has been tested, and even gold has been found to be mixed with the clay in considerable quantities.

But in the second place, clay of whatever colour requires something to render it coherent, otherwise it would crumble to pieces during the drying process, and the jar be ruined. Various ingredients were used by the potters, as was found on examination of the ware. For ordinary pottery finely-chopped straw, reduced almost to powder, was mixed with the clay; some of the finer vases contained mica and pounded shells, ashes of various sorts, and charcoal dust, while for the

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black ware graphite was used. To these admixtures a great deal of the difference in colour of the ware is due, but something must be attributed to the way of baking, the fineness of the paste and its homogeneity. How the vases were baked is not known. Monsieur Wiener, member of the French expedition in 1875, records a Peruvian tradition that the vases were placed in the middle of a wall of taquia, a sort of dried llama dung, which burns with a very fierce flame, and that about half a dozen Indians sat round the fire, blowing through long reeds, thus producing the required intense heat. It is said that even now Indians are occasionally seen using this process for small clay objects, made by themselves for domestic use, sometimes simply covering the article they want to dry with a fire which is kept burning for some hours, and which seems to answer the purpose. For painting their vases the potters are said to have mixed a mineral colour with a little clay, which they then stirred in a large quantity of water, thus acquiring a very thin colouring matter. When the jar was half baked a thin coating was applied, and the baking was then finished. In this way the colour assimilated itself with the jar.

The Peruvians do not seem to have used glaze, but were able to get a very fine polish by burnishing the jars with a piece of wood suitably shaped. But the favourite way of obtaining a polish was by rubbing the surface with the thumb-nail, a process not unknown to schoolboys when part of their exercises requires erasure, and the paper has lost its smoothness in consequence.

The potters at Cuzco seem to have excelled in giving a very fine surface to their wares, but in the coast region only the black ware was so polished. The coast vases were very light and delicate, while the inland vases were perhaps finer in shape but all much heavier; it is difficult to give any reason for this

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difference, but it assists to decide in which particular region it was manufactured. Some of the patterns on the commoner vases were no doubt applied by moulds, many of which have been found in excavations in various parts of the country.

This rapid survey of Peru and her pottery is intended to excite a desire in the visitor to the collection in the British Museum for more information about this interesting country. The literature about Peru, already extensive, is rapidly growing, and the present writer owes a debt of gratitude to the various authors of scientific works from which he gleaned the preceding remarks.

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